

REMARKS

With entry of the foregoing amendments, claims 1-4 and 7-40 are now pending in the application. The Examiner rejected all of the claims. Applicants acknowledge that the Examiner withdrew the rejection of claims 1, 2, 5-30 and 33-40 under 35 U.S.C. §102(e), but substituted a new rejection under 35 U.S.C. §103(a). Claims 1, 23, 29 and 40 have been amended. Claims 5 and 6 are now canceled with the features of these claims now incorporated into amended claim 1. The Applicants respectfully request reconsideration in view of the foregoing amendments.

Introduction

The present invention is a network system that uses a system manager component to control the scheduling of content download to targeted client devices in a bandwidth efficient manner and to control the scheduling of content activation at the targeted devices.

Specifically, individual scheduling messages are generated and delivered to targeted client devices. Each of the scheduling messages contains data identifying the content to be downloaded to a targeted device as well as data that schedules activation of the content at a time subsequent to the content download in a manner free of user intervention.

A system manager component schedules content download and activation by initiating delivery of the scheduling messages in advance of content activation, such as at a time when bandwidth utilization is expected to be minimal. In response to receiving a scheduling message, a targeted client device establishes a connection with the server system to download the targeted content identified in the scheduling message and then activates the downloaded content at a subsequent time according to the data in the scheduling message. Similar features are now recited in claims 1, 23, 29 and 40.

Claim Rejections - 35 U.S.C. §103

The Examiner rejected claims 1, 2, 5-30 and 33-40 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent to Kupka et al (“Kupka”) in view of U.S. Patent 6,047,327 to Tso et al (“Tso”).

Claims 1, 23, 29 and 40 are now amended to similarly recite a system manager that initiates delivery of individual scheduling messages in advance of content activation to targeted network devices. At each of the targeted devices, a system agent receives one of the scheduling messages and, in response, automatically directs a bulk data transfer agent to establish a connection to a bulk data transfer manager of the server system. After establishing the connection, the bulk data transfer agent requests the targeted content identified in the scheduling message. The bulk data transfer manager then downloads the requested content from a content store to the bulk data transfer agent. Subsequently, the system agent activates the downloaded content at a later time according to the scheduling message free of user intervention. Support for these amendments can be found at least in FIG. 4A and the surrounding discussion on page 22, line 13 through page 24, lines 15.

Neither Kupka nor Tso teaches or suggests these features. In the present office action, the Examiner acknowledges that Kupka does not disclose generating messages to schedule a content download to targeted network devices at all. However, the Examiner is of the opinion that Tso discloses this feature by using a schedule/resource controller to control distribution of data information. With the foregoing amendments, the Applicants respectfully disagree.

Tso discloses a system for distributing electronic information to a targeted group of users. Referring to Fig. 5 of Tso, a server receives items of information (“InfoCasts”) from content providers. For example, an InfoCast may be a data file including a news story, video feed, or audio feed. For each InfoCast, a summary of the information (“InfoBite”) is generated including resource identifiers that point to the corresponding information stored at the server or at the originating content provider. (See Tso: Fig. 4). The InfoBites may also contain a listing of actions that may be invoked by a user (“InfoActions.”), such as downloading an InfoCast resource. (See Tso: Table 2)

For each user, the server filters the generated InfoBites based on a user profile, current location and time of day. The filtered InfoBites are then sent to the client through a Short Message Service (SMS) interface. Once the InfoBites are received, the client may, if desired, issue a server request for specific resources identified in the InfoBite that are necessary for its display (e.g., thumbnail graphics, maps, etc). (Tso: col. 13, ln. 27 through col. 14, ln. 51).

Once the InfoBite is displayed, the user can optionally instruct the client to display the full content of the InfoCast by using the corresponding resource identifier to obtain the full information from the server or content provider. Other user actions, or InfoActions, may also be invoked. (Tso: col. 14, ln. 52 through col. 15, ln. 51).

As now amended in claims 1, 23, 29 and 40, Tso fails to teach or suggest a system manager that schedules content download by initiating delivery of individual scheduling messages in advance of content activation to cause the targeted network devices to download and activate the content according to the scheduling messages. Rather, in Tso, the InfoBites merely serve as a means for notifying a user of available InfoCasts that can be downloaded. The InfoBite is first displayed to the user enabling the user to optionally cause the client to request the content. The mere fact that an InfoBite is received does not automatically trigger the client to transparently download InfoCast resources. Rather, the user has the option of downloading the content or not.

Moreover, as recited in claims 3, 4, 31 and 32, Tso fails to teach or suggest a system manager that schedules content download by initiating delivery of individual scheduling messages at a time when bandwidth utilization is expected to be minimal. At best, Tso mentions that InfoBites are filtered for each user based on a temporal filter. However, this temporal filter relates to the validity period of the InfoCast itself (e.g., traffic report valid for 30 minutes) and not a time when bandwidth utilization is expected to be minimal. For example, the “system manager” of the present invention can be configured to send scheduling messages during off peak hours or when the monitored network utilization falls below a predetermined level. (See specification, page 23, lines 1-6).

Furthermore, as now recited in claims 1, 23, 29 and 40, Tso fails to teach or suggest including data in a scheduling message that schedules activation of downloaded content at a time subsequent to content download in a manner free of user intervention. With respect to the InfoBites, the client handles their display upon receipt. The InfoBites do not contain data that schedules their activation at a time subsequent to their download. Furthermore, although the InfoBites contain data indicating various user actions or “InfoActions,” these actions must be manually invoked. In other words, these InfoActions do not schedule activation of downloaded content in a manner free of user intervention.

For at least these reasons, it is believed that amended claims 1, 23, 29 and 40 are novel and nonobvious in view of the prior art of record and should be patentable.

By virtue of at least their dependency from claims 1, 23, and 29 respectively, it is also believed that claims 2-4, 7-22, 24-28 and 30-39 are also patentable.

Claim Rejections - 35 U.S.C. §103

The Examiner also rejected claims 3, 4, 31 and 32 under 35 U.S.C. §103(a) as being unpatentable over Kupka and Tso in view of U.S. Patent 5,961,602 Thompson et al.

In particular, the Examiner acknowledges that Kupka and Tso do not disclose scheduling content downloads to targeted network devices during typical periods of low network usage or when usage of the data network falls below a predetermined level. However, the Examiner is of the opinion that Thompson discloses these features.

In particular, Thompson discloses a method of caching web content from multiple web servers on a web client. The method involves the user defining a set of one or more servers from which content is desired to be retrieved and stored in the web client's cache. (See Abstract). Referring to Figs. 2 and 5, the web client includes a cache control 225 and a link monitor 229. The client cache control 225 downloads content from a list of "favorite" web sites during an "off period" to avoid traffic congestion at the web sites. During the download period, the client link monitor 229 determines the activity level over the communication link 227. If the activity level for the link is less than a given threshold, additional requests for content are issued to the client cache control 225. This process continues until the download period expires.

In contrast, the present invention schedules content download and activation to a targeted group of devices by generating individual scheduling messages for the targeted network devices and then initiating download of the scheduling messages to the targeted devices. The targeted network devices then download and activate the content according to the scheduling messages. Thus, the present invention controls the scheduling of content download and activation for a group of targeted devices as opposed to the devices themselves.

In particular, the present invention can generate individual scheduling messages that schedule content downloads during periods when usage of the data network is typically low, as now recited in claims 3 and 31. The present invention can also generate individual scheduling

message that schedule content downloads when the usage of the data network falls below a predetermined level, as now recited in claims 4 and 32. By pushing these scheduling message to the targeted devices, the targeted devices can be directed to download content in a timely and bandwidth efficient manner.

In Thompson, however, the web clients themselves control the scheduling of the content downloads instead of having the clients download the content according to individual scheduling messages delivered to them. Furthermore, because the web client themselves select the content for download, the client are not targeted network devices to which content downloads are scheduled.

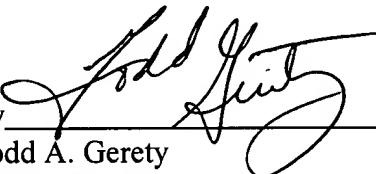
For at least these reasons, claims 3, 4, 31 and 32 are also novel and nonobvious in view of the prior art of record and should be patentable.

CONCLUSION

In view of the above amendments and remarks, it is believed that claims 1-4 and 7-40 are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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**PROPOSED CLAIMS FOR RCE
(MARK-UP VERSION)**

What is claimed is:

1. (Currently amended) A system for deploying content to network devices over a data network, comprising:

a content store that stores the content;

a bulk data transfer manager that has access to the content store;

a system manager for scheduling a download of content from the content store to targeted network devices and downloading criteria for activation of the content on the targeted network devices by generating individual scheduling messages to schedule download and activation of targeted content to the targeted network devices;

each of the scheduling messages containing data that identifies the content to be downloaded to a network device, each of the scheduling messages further containing data that schedules activation of the downloaded content at a time subsequent to content download in a manner free of user intervention;

the system manager scheduling content download by further initiating download of the scheduling messages to the targeted network devices in advance of content activation to cause the network devices to download and activate the content according to the scheduling messages; and

the targeted network devices downloading and activating the targeted content according to the scheduling messages

at each of the targeted network devices, a system agent and a bulk data transfer agent executing in the targeted network device,

the system agent receiving one of the scheduling messages delivered from the system manager;

in response to receiving the scheduling message, the system agent automatically directing the bulk data transfer agent to establish a connection to the bulk data transfer manager and to download the content identified in the scheduling message;

the bulk data transfer agent initiating a connection to the bulk data transfer manager and requesting the content identified in the scheduling message;

the bulk data transfer manager downloading the requested content from the content store to the bulk data transfer agent; and

the system agent activating the downloaded content free of user intervention at a time subsequent to content download according to the data that schedules activation of the content in the scheduling message.

2. (Original) A system as recited in Claim 1, wherein the system manager selects the targeted network devices among other network devices on the data network based on profile information associated with the network devices.
3. (Previously presented) A system as recited in Claim 1, wherein the system manager generates the individual scheduling messages to schedule download of the targeted content to the targeted network devices during periods when usage of the data network is typically low.
4. (Previously presented) A system as recited in Claim 1, wherein the system manager monitors usage of the data network and generates the individual scheduling messages to schedule download of the targeted content when usage of the data network falls below a predetermined level.

5. (Canceled)
6. (Canceled)
7. (Original) A system as recited in Claim 1, further comprising a management console that provides an interface to identify content for deployment on the network devices, the management console downloading the content to the content store.
8. (Original) A system as recited in Claim 7, wherein the management console further provides an interface to identify a group profile for targeting the network devices for content deployment, the management console downloading the group profile to the content store.
9. (Original) A system as recited in Claim 7, wherein the management console further provides an interface for identifying activation criteria for activating the content on the network devices.
10. (Original) A system as recited in Claim 1, further comprising:
a system agent executing on the network device; and
the system manager activating the downloaded content sending a message to the system agent to activate the downloaded content.
11. (Original) A system as recited in Claim 1, further comprising a system agent executing on the network device, the system agent activating the downloaded content on the network device at a predetermined date and time.
12. (Original) A system as recited in Claim 1, further comprising a system agent executing on the network device, the system agent activating the downloaded

content on the network device in response to an event.

13. (Original) A system as recited in Claim 12, wherein the event is a channel event.
14. (Original) A system as recited in Claim 12, wherein the event is an attachment of a peripheral device to the network device.
15. (Original) A system as recited in Claim 1, further comprising a promotion notification agent executing on the network device; wherein the downloaded content is a promotion;
the promotion notification agent activating the promotion in response to an event.
16. (Original) A system as recited in Claim 15, wherein the event is a channel event.
17. (Original) A system as recited in Claim 15, wherein the event is an attachment of a peripheral device to the network device.
18. (Original) A system as recited in Claim 15, wherein the promotion notification agent activates a plurality of promotions on the network device in response to the event.
19. (Original) A system as recited in Claim 1, wherein the data network is a cable network.
20. (Original) A system as recited in Claim 1, wherein the data network is a satellite-linked network.
21. (Original) A system as recited in Claim 1, wherein the data network is a Digital Subscriber Line network.

22. (Original) A system as recited in Claim 1, wherein the data network is a wireless network.

23. (Currently amended) A system for deploying content to network devices over a data network, comprising:

a content store that stores the content, the content being promotions;

a bulk data transfer manager that has access to the content store;

a system manager for scheduling a download of content from the content store to targeted network devices and downloading criteria for activation of the content on the targeted network devices by generating individual scheduling messages to schedule download and activation of targeted promotions to the targeted network devices;

each of the scheduling messages containing data that identifies the targeted promotions to be downloaded to a network device, each of the scheduling messages further containing data that schedules activation of the downloaded targeted promotions at a time subsequent to content download in a manner free of user intervention;

the system manager scheduling promotion download by further initiating download of the scheduling messages to the targeted network devices in advance of promotion activation to cause the network devices to download and activate the promotions according to the scheduling messages;

the targeted network devices downloading the targeted promotions according to the scheduling messages; and

at each of the targeted network devices, a system agent, a promotion notification agent and a bulk data transfer agent

executing in the targeted network device, the system agent receiving one of the scheduling messages delivered from the system manager;

in response to receiving the scheduling message, the system agent automatically directing the bulk data transfer agent to establish a connection to the bulk data transfer manager and to download the promotions identified in the scheduling message;

the bulk data transfer agent initiating a connection to the bulk data transfer manager and requesting the promotions identified in the scheduling message;

the bulk data transfer manager downloading the requested promotion from the content store to the bulk data transfer agent;
and

[[a]] the promotion notification agent executing in each of the targeted network devices that activates activating the targeted promotions at a time subsequent to promotion download according to the data that schedules activation of the promotions based on activation criteria in the scheduling messages.

24. (Original) A system as recited in Claim 23, wherein the promotion notification agent waits for a message from the system agent to activate the content.
25. (Original) A system as recited in Claim 23, wherein the promotion notification agent waits for a predetermined date and time established by the activation criteria to activate the content.
26. (Original) A system as recited in Claim 23, wherein the promotion notification agent monitors user activity and waits for a predetermined user action established by the activation criteria to activate the content.

27. (Original) A system as recited in Claim 23, wherein the promotion notification agent monitors a video stream for embedded signal established by the activation criteria to activate the content.
28. (Original) A system as recited in Claim 23, wherein the promotion notification agent monitors a current channel for a television display device and activates the content in response to the current channel.
29. (Currently amended) A method for deploying content to network devices over a data network, comprising:
- storing content on a server system on the network;
 - generating individual scheduling messages to schedule download and activation of targeted content to a plurality of targeted network devices, each of the scheduling messages containing data that identifies the content to be downloaded to a targeted network device, each of the scheduling messages further containing data that schedules activation of the downloaded content at a time subsequent to content download in a manner free of user intervention;
 - scheduling content download by initiating download of the scheduling messages to the plurality of targeted network devices in advance of content activation to cause the targeted network devices to download and activate the content according to the scheduling messages; and
 - downloading and activating the targeted content by the plurality of targeted network devices according to the scheduling messages
 - receiving one of the delivered scheduling messages;
 - in response to receiving the scheduling message,
 - automatically establishing a connection in order to download the content targeted in the received scheduling message;

requesting the content identified in the scheduling message;
downloading the requested content; and
activating the downloaded content free of user intervention
at a time subsequent to content download according to the data that
schedules activation of the content in the scheduling message.

30. (Original) A method as recited in Claim 29, further comprising selecting the targeted network devices among other network devices on the data network based on profile information associated with the network devices.
31. (Currently amended) A method as recited in Claim 29, further comprising generating the individual scheduling messages to schedule download of the targeted content to the plurality of targeted network devices during periods when usage of the data network is typically low.
32. (Currently amended) A method as recited in Claim 29, further comprising:
monitoring usage of the data network; and
generating the individual scheduling messages to schedule
download of the targeted content to the plurality of targeted network
devices when usage of the data network falls below a predetermined level.
33. (Original) A method as recited in Claim 29, further comprising using a bulk data transfer manager and a bulk data transfer agent to download the content to the network device.
34. (Original) A method as recited in Claim 29, further comprising an advertiser selecting activation criteria and target group profile via an interface to the server system.
35. (Original) A method as recited in Claim 29, wherein the step of downloading

activation criteria comprises downloading a predetermined activation date and time.

36. (Original) A method as recited in Claim 29, wherein the step of downloading activation criteria comprises downloading activation event information.
37. (Original) A method as recited in Claim 29, further comprising activating the content in response to user attachment of a peripheral device to the network device.
38. (Original) A method as recited in Claim 29, further comprising activating the content in response to a selected channel for a television display device.
39. (Original) A method as recited in Claim 29, further comprising activating the content in response to a signal embedded in a video stream.
40. (Currently amended) A method for deploying content to network devices over a data network, comprising:
 - storing content on a server system on the network, wherein the content is a promotion;
 - downloading activation criteria for the promotion on the targeted network devices; and
 - generating individual scheduling messages to schedule download and activation of the promotion to a plurality of targeted network devices, each of the scheduling messages containing data that identifies the promotions to be downloaded to a targeted network device, each of the scheduling messages further containing data that schedules activation of the downloaded promotions at a time subsequent to promotion download in a manner free of user intervention;

scheduling content download by initiating download of the scheduling messages to the plurality of targeted network devices in advance of promotion activation to cause the targeted network devices to download and activate the promotions according to the scheduling messages;

downloading the promotion to the plurality of targeted network devices according to the scheduling messages; and

activating the promotion by a promotion notification agent executing in each of the plurality of targeted network devices based on the activation criteria in the scheduling messages

receiving one of the delivered scheduling messages;

in response to receiving the scheduling message,

automatically establishing a connection in order to download the promotions targeted in the received scheduling message;

requesting the promotions identified in the scheduling message;

downloading the requested promotions; and

activating the downloaded promotions free of user intervention at a time subsequent to content download according to the data that schedules activation of the promotions in the scheduling message.